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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,666	09/22/2000	Carl A. Waldspurger	Vmware8	2255

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EXAMINER	
EL CHANTI, HUSSEIN A	
ART UNIT	PAPER NUMBER
2157	3

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/668,666	WALDSPURGER, CARL A.	
	Examiner	Art Unit	
	Hussein A El-chanti	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is responsive to application filed on Sep. 22, 2000. Claims 1-20 are pending examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims are 1-4 and 7-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Bolosky et al., U.S. Patent No. 6,134,596 (referred to hereafter as Bolosky).

As to claim 1, Bolosky teaches a computer system comprising:

a host system which includes a host operating system and at least one system resource (see col. 1 lines 24-37 and col. 11 lines 54-62);

at least one guest system operatively connected to the host system (see col. 1 lines 39-43, col. 1 lines 15-20 and col. 11 lines 54-62);

each guest operating system provided with resource request means for reserving the system resource from within the respective guest operating system thereby making the resource available to the host system (see col. 9 lines 45-60 and col. 26 lines 21-32).

As to claim 2, Bolosky teaches the system of claim 1 in which the resource request means is a driver installed within each respective guest operating system (see col. 13 lines 15-28, where the network scheduler represents the driver installed on each guest operating system).

As to claim 3, Bolosky teaches the system of claim 2 further comprising:

a resource scheduler in the host system for allocating the system resource among the guest systems (see col. 11 lines 30-36);

for each guest system, a communications means for communicating a respective resource quantity request to each driver (see col. 13 lines 55-col. 14 lines 22);

each driver being provided for reserving an amount of the system resource corresponding to the resource quantity request (see col. 13 lines 55-col. 14 lines 22).

As to claim 4, Bolosky teaches the system of claim 3 where:

each guest operating system resource reservation means for reserving specified amounts of the system resource (see col. 13 lines 15-54);

the driver is operatively connected to the resource reservation means for communicating the resource quantity request to the resource reservation means (see col. 13 lines 15-54); and

the resource reservation means of each guest operating system is native to the guest operating system, all communication between the resource scheduler and

the guest systems taking place via the respective drivers, the resource scheduler remaining transparent to the guest systems (see col. 13 lines 15-54).

As to claim 7, Bolosky teaches the system of claim 4 in which:

the system resource is system machine memory (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51);

the guest operating system allocates and deallocates physical memory to applications and drivers loaded within and connected to the guest operating system (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51);

upon an increase in the resource quantity request for a specified one of the drivers, the guest operating system reserves a corresponding quantity of memory (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51);

upon a decrease in the resource quantity request for the specified one of the drivers, the guest operating system deallocates a corresponding quantity of physical memory (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51).

As to claim 8, Bolosky teaches the system of claim 4 in which the resource requesting means is further provided for adapting a rate at which it reserves the system resource via the guest operating system to be no greater than a current maximum reservation change rate of the guest operating system (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51).

As to claim 9, Bolosky teaches the system of claim 1 in which the resource request mean is a user-level application loaded in the guest system and running on the guest operating system (see col. 4 lines 39-43 and col. 11 lines 54-62).

As to claim 10, Bolosky teaches the method of claim 1 where the system resource is system memory (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51).

As to claim 11, Bolosky teaches the system of claim 1 where:

the host system includes a plurality of processors (see col. 1 lines 24-37 and col. 11 lines 54-62); and

the system resource is the plurality of processors, the resource quantity request indicating to the resource request means in each respective guest system a number of the plurality of processors to be reserved by each guest system thereby making the reserved processors available for reallocation by the host system (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51).

As to claim 12, Bolosky teaches a computer system comprising:

a host system which includes a host operating system and at least one system resource (see col. 1 lines 24-37 and col. 11 lines 54-62);

at least one guest system operatively connected to the host system (see col. 1 lines 39-43 and col. 11 lines 54-62);

a resource scheduler in the host system for allocating the system resource among the guest systems (see col. 11 lines 30-36);

for each guest system, a communications means for communicating a respective resource quantity request to each driver (see col. 13 lines 55-col. 14 lines 22);

each guest operating system provided with resource request means for reserving the system resource from within the respective guest operating system thereby making the resource available to the host system (see col. 9 lines 45-60 and col. 26 lines 21-32).

the resource request means is a driver installed within each respective guest operating system (see col. 13 lines 15-28, where the network scheduler represents the driver installed on each guest operating system).

for each guest system, a communications means for communicating a respective resource quantity request to each driver (see col. 13 lines 55-col. 14 lines 22);

each driver being provided for reserving an amount of the system resource corresponding to the resource quantity request (see col. 13 lines 55-col. 14 lines 22).

the driver is operatively connected to the resource reservation means for communicating the resource quantity request to the resource reservation means (see col. 13 lines 15-54);

the resource reservation means of each guest operating system is native to the guest operating system, all communication between the resource scheduler and

the guest systems taking place via the respective drivers, the resource scheduler remaining transparent to the guest systems (see col. 13 lines 15-54).

the system resource is system machine memory (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51);

the guest operating system allocates and deallocates physical memory to applications and drivers loaded within and connected to the guest operating system (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51);

upon an increase in the resource quantity request for a specified one of the drivers, the guest operating system reserves a corresponding quantity of memory (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51);

upon a decrease in the resource quantity request for the specified one of the drivers, the guest operating system deallocates a corresponding quantity of physical memory (see col. 13 lines 35-col. 14 lines 22, col. 19 lines 29-col. 20 lines 2 and col. 12 lines 36-51).

As to claim 13, Bolosky teaches a computer system comprising:

a host operating system (see col. 1 lines 24-37 and col. 11 lines 54-62);

at least one system resource that is included that is included within the host system (see col. 1 lines 24-37 and col. 11 lines 54-62);

at least one guest system (see col. 1 lines 39-43 and col. 11 lines 54-62);

a method comprising the step of reserving the system resource from within the guest operating system (see col. 13 lines 15-54).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolosky in view of Murata, U.S. Patent No. 6,247,081.

As to claim 5, Bolosky teaches a computer system comprising a host operating system, at least one guest operating system where each guest operating system provided with resource request means for reserving the system resource from within the respective guest operating system thereby making the resource available to the host system (see the rejection of claim 1).

Bolosky does not explicitly teach the limitation "each guest system is a virtual machine". However Murata teaches a file management system that controls access to storage devices using a virtual machine that controls scheduling and virtual memory management (see col. 4 lines 7-30).

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify the guest operating system of Bolosky by incorporating virtual machines as taught by Murata because doing so would allow the user to monitor the resource schedule using a web interface, Java and DB2.

As to claim 6, Murata virtual machine monitor forming an interface between the resource scheduler and each respective virtual machine (see col. 4 lines 7-30).

4. Claims 14-20 do not teach or define any additional limitation over claims 1-13 and therefore are rejected for similar reasons.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Video File Server Using An Integrated Cached Disk Array And Stream Server Computers by Tzelnic et al., U.S. Patent No. 6,061,504.
- High Speed File I/O Control Method And System With User Set File Structure To Effect Parallel Access Pattern Over A Network by Utsunomiya et al., U.S. Patent No. 6,101,558.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A El-chanti whose telephone number is (703)305-4652. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703)308-7562. The fax phone number for the organization where this application or proceeding is assigned is (703)746-9679.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Hussein El-chanti

Nov. 24, 2003

ARIO ETIENNE
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